

CLAIMS

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Jul. 4
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1. A protein having a molecular weight of about 24kD and capable of specifically binding to a protein of hepatitis C virus, or a functionally equivalent variant or fragment thereof.

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2. A protein or a functionally equivalent variant or fragment thereof according to claim 1 which is functionally unglycosylated.

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3. A protein or a functionally equivalent variant or fragment thereof according to claim 1 or 2 wherein the protein is a transmembrane protein.

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4. A process for the preparation of a protein or a functionally equivalent variant or fragment thereof according to any one of claims 1 to 3 comprising the step of culturing cells exhibiting binding to an HCV protein and purifying from a cell preparation a protein according to any one of claims 1 to 3.

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5. A process according to claim 4 wherein the cell preparation is a plasma cell membrane preparation.

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6. A process according to claim 4 or 5 wherein the cells are selected and cloned to provide hyperexpression of the protein according to any one of claims 1 to 3.

7. A process according to any one of claims 4 to 6 wherein the cell preparation is subjected to an ammonium sulphate precipitation purification step employing ammonium sulphate at between 33 and 50%

8. A process according to any one of claims 4 to 7 wherein the purification involves at least one step of hydrophobic interaction chromatography.

9. A process according to any one of claims 4 to 8 wherein the process involves at least one step of acetone precipitation

5 10. A process according to any one of claims 4 to 8 wherein comprising the steps of:

10 i) preparing a plasma cell membrane preparation of mammalian cells selected for hyperexpression of the 24kd protein of the invention,

15 ii) subjecting the preparation to ammonium sulphate precipitation at less than 33% saturation and retaining the supernatant,

20 iii) subjecting the supernatant to ammonium sulphate precipitation at between 33 and 50% saturation and retaining the precipitate, and

25 iv) resuspending the precipitate and subjecting it to hydrophobic interaction chromatography

11. A method for treating an infection of HCV comprising administering to a patient an amount of a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof effective to reduce the infectivity of the virus.

30 12. A pharmaceutical composition comprising a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof, optionally as a pharmaceutically acceptable salt, in combination with a pharmaceutically acceptable carrier.

35 13. A process for preparing a pharmaceutical composition, in which a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment

thereof is brought into association with a pharmaceutically acceptable carrier.

14. A protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof for use as a pharmaceutical.

15. Use of a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof in the manufacture of a medicament for the treatment of an HCV infection.

16. An assay for HCV antibodies in a serum sample comprising the step of allowing competitive binding between antibodies in the sample and a known amount of an HCV protein for binding to a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof and measuring the amount of the known HCV protein bound

17. A diagnostic kit comprising the protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof.

18. A method for screening chemical compounds for ability to bind to the region of HCV responsible for binding to a host cell, comprising measuring the binding of a chemical compound to be screened to a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof.

19. A transgenic non-human mammal, carrying a transgene encoding a protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof.

20. A process for producing a transgenic animal comprising the step of introducing a DNA encoding a

protein according to any one of claims 1 to 3 or a functionally equivalent variant or fragment thereof into the embryo of a non-human mammal, preferably a mouse.

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